AE-V-A-315

Maryland Historical Trust

Maryland Inventory of Historic Properties number: AE-V-A-315

Name: Bowery Rd. over abandoned spur of WM RR

The bridge referenced herein was inventoried by the Maryland State Highway Administration as part of the Historic Bridge Inventory, and SHA provided the Trust with eligibility determinations in February 2001. The Trust accepted the Historic Bridge Inventory on April 3, 2001. The bridge received the following determination of eligibility.

MARYLAND HISTORICAL TRUST

Eligibility Recommended ___X___ Eligibility Not Recommended _____

Criteria: ____A ____B ____C ____D Considerations: ___A ___B ___C ___D ___E ___F ___G __None

Comments: _____

_____

_____

Reviewer, OPS: Anne E. Bruder Date: 3 April 2001

Reviewer, NR Program: Peter E. Kurtze Date: 3 April 2001

Maryland Inventory of Historic Properties MHT Number AL-V-A-315
Historic Bridge Inventory
Maryland State Highway Administration
Maryland Historical Trust

SHA Bridge No. A-F-01 **Name:** Bowery Street over abandoned spur of WMRR

Location:
Street/Road Name and Number: Bowery Street

City/Town: Frostburg

County: Allegany

Ownership: __State__County_X_Municipal__Other

This bridge projects over: __Road_X_Railway_Water__Land

Is the bridge located within a designated district:__yes X no

_NR listed district_NR determined eligible district
_locally designated_other
Name of District

Bridge Type:

_Timber Bridge
_Beam Bridge_Truss-Covered_Trestle
_Timber-and-Concrete

_Stone Arch

_Metal Truss

_Movable Bridge
_Swing _Bascule Single Leaf_Bascule Multiple Leaf
_Vertical Lift_Retractile_Pontoon

__Metal Girder
__Rolled Girder _Rolled Girder Concrete Encased
_Plate Girder _Plate Girder Concrete Encased

_Metal Suspension

_Metal Arch

_Metal Cantilever

_X_Concrete
_X Concrete Arch _Concrete Slab_Concrete Beam
_Rigid Frame

_Other Type Name_____

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Describe Setting:

Bridge A-F-01 carries Bowery Street over an abandoned spur of the Western Maryland Railroad. Bowery Street runs north south over the east west spur. The bridge is south of the Frostburg Historic District and is surrounded by modern two-story housing. In addition there are late-nineteenth and early-twentieth century I-houses in the vicinity of the bridge.

Describe Superstructure and Substructure:

Bridge A-F-01 is a single span closed concrete arch bridge. The length of the bridge is 59 feet with a clear span measuring 43 feet at the springline. The bridge has a rise of 19 feet from springline to the crown. The spandrel walls are approximately 28 feet wide. The spandrel walls have a 1-inch incised molding that is 4 feet by 10 feet and follows the arch's opening from approximately midway up the rise. The bridge has a clear roadway width of 34 feet with an overall width of 46 feet 6 inches. According to a 1995 inspection report the concrete arch is in fair condition, with slight vertical cracking on each side with light damp efflorescence. The southern side of the arch also has one slight vertical crack. The bridge has a sufficiency rating of 84.6

Bridge A-F-01 has its original parapets. The parapets are 43 feet across on both the eastern and western sides of the bridge. The parapets are separated into 3 sections. The first and third sections from the northern and southern approaches are approximately 20 feet across and 3 feet high. The middle section is approximately 12 feet long and 3 feet high. A 1-inch felt joint separates the 3 sections. In addition the parapets have a cap which measures approximately 3 inches by 4 inches by 3 inches. Each section of the parapet has incised panels. The first and third sections have 3 1-inch deep incised panels measuring approximately 4 feet long by 4 inches high. The middle section has a single 1-inch deep incised panel measuring approximately 10 feet long and 4 inches high. There are additional parapet sections over the wingwalls. The end sections measure approximately 4 feet wide and 3 feet high. Each section has a 1-inch incised panel measuring approximately 4 feet wide and 4 inches high. The parapets have moderate spalling and patching but are in fair condition.

The eastern approach to the railroad has been filled up to the spandrel walls. The western side of the bridge has timber retaining walls 14 feet high on the southern side and 10 feet high on the eastern side.

Discuss Major Alterations:
At some unknown date wooden 4-by-8s were added on the northern approach to prevent traffic from easily sliding over the embankment.

History:
When Built? 1915
Why Built? Access to southern Frostburg
Who Built? City of Frostburg
Who Designed? Luten Bridge Company, York PA
Why Altered? N/A
Was this bridge built as part of an organized bridge building campaign?
No this bridge was not built as part any state bridge building campaign. It was built by the city of Frostburg to provide access to the city's growing southern section.

Surveyor Analysis:
This bridge may have NR significance for association with:
_X_ A Events _ Person
_X_ C Engineering/Architectural

This bridge was determined eligible by the Interagency Review Committee in February 1996.

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Was this bridge constructed in response to significant events in Maryland or local history?

Yes, as the City of Frostburg expanded from its city center south and northwest, it needed to improve the city infrastructure. The Western Maryland Railroad had already built a spur line through this corridor sometime in the mid- to late-nineteenth century. When the city was growing into the area around the railroad they granted a bid to the Luten Bridge Company to build a crossing across the pre-existing railroad.

The Luten Bridge Company of York, PA., was incorporated in 1909 as a contracting concern specializing in the designs of Daniel Luten. It grew to be the largest of Luten's loosely affiliated corporations and operated offices in Clarksburg, WV; Concord, NH; Columbus, OH; Chatsworth, GA; and Syracuse, NY. Daniel Luten specialized in the reinforced concrete bridges. His designs dominated the market and were copied (under patent protection) and used throughout the eastern United States.

The advent of modern concrete technology fostered a renaissance of arch bridge construction in the United States. Reinforced concrete allowed the arch bridge to be constructed with much more ease than ever before and maintained the load-bearing capabilities of the form. As the structural advantages of reinforced concrete became apparent, the heavy, filled barrel of the arch was lightened into ribs. Spandrel walls were opened, to give a lighter appearance and to decrease dead load. This enabled the concrete arch to become flatter and multi-centered, with longer spans possible. Designers were no longer limited to the semicircular or segmental arch form of the stone arch bridge. The versatility of reinforced concrete permitted development of a variety of economical bridges for use on roads crossing small streams and rivers.

Maryland's roads and bridge improvement programs mirrored economic cycles. The first road improvement of the State Roads Commission was a 7-year program, starting with the Commission's establishment in 1908 and ending in 1915. Due to World War 1, the period from 1916-1920 was one of relative inactivity; only roads of first priority were built. Truck traffic resulting from war related factories and military installations generated new, heavy traffic unanticipated by the builders of the early road system. From 1920-1929, numerous highway improvements occurred in response to the increase in Maryland motor vehicles from 103,000 in 1920 to 320,000 in 1929, with emphasis on the secondary system of feeder roads that moved traffic from the primary roads built before World War 1. After World War 1, Maryland's bridge system also was appraised as too narrow and structurally inadequate for the increasing traffic , with plans for an expanded bridge program to be handled by the Bridge Division, set up in 1920. In 1920 under Chapter 508 of the Acts of 1920 the State issued a bond of $3,000,000.00 for road construction; the primary purpose of these monies was to meet the state obligations involving the construction of rural post roads. The secondary purpose of these monies was to fund (with an equal sum from the counties) the building of lateral roads. The number of hard surfaced roads on the state system grew from 2000 in 1920 to 3200 in 1930. By 1930, Maryland's primary system had been inadequate to the huge freight trucks and volume of passenger cars in use, with major improvements occurring in the late 1930's. Most improvements to local roads waited until the years after World War 1.

As the nation's automotive traffic increased in the early twentieth century, local road networks were consolidated, and state highway departments were formed to supervise the construction and improvement of state roads. With a diverse topographical domain encompassing numerous small and large crossings, Maryland engineers quickly recognized the need for expedient design and construction through the standardization of bridge designs.

The concept and practice of standardization was one of the most important developments in engineering of the twentieth century. In Maryland, as in the rest of the nation, the standardized concrete types became the predominant bridge types built. In the period 1911 to 1920 (the decade in which standardized plans were introduced), beams and slabs constituted 65 percent and arches 35 percent of the extant 29 bridges built in Maryland. In the following decade, 1921-1930, the beam (now the T-beam) and slab increased to 73 percent and the arch had declined to 27 percent of the 129 extant bridges; in the next decade (1931-1940), the beam and slab achieved 82 percent and arches had further declined, constituting only 18 percent of the total of extant bridges built on state-owned roads between 1931 and 1946.

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Although beam and slab bridges became the utilitarian choice, it appears that the arch was selected when aesthetics as well as other site conditions were considered. The architectural treatment of extant arch bridges supports this assessment. Many of these bridges were multiple span structures with open spandrels or masonry facing. Another decorative feature of the concrete arch bridge was an open, balustrade-style parapet. Despite the popularity of ornamental arches and the increase in use of beam and slab bridges, examples of simpler, single and multiple span closed concrete arch bridges with solid parapets continued to be constructed throughout the early twentieth century.

Is the bridge located in an area that may be eligible for historic designation and would the bridge add to or detract from historic and visual character of the possible district?

Yes, the bridge is just south of the Frostburg Historic District. If the lines of the district were expanded to incorporate the local homes, the bridge could be included as an example of the city's growth in the earlier part of the twentieth century.

Is the bridge a significant example of its type?

Yes, the bridge is a documented and good example of a concrete arch bridge built by the Luten Bridge Company of York, Pennsylvania.

Does the bridge retain integrity of the important elements described in the Context Addendum?

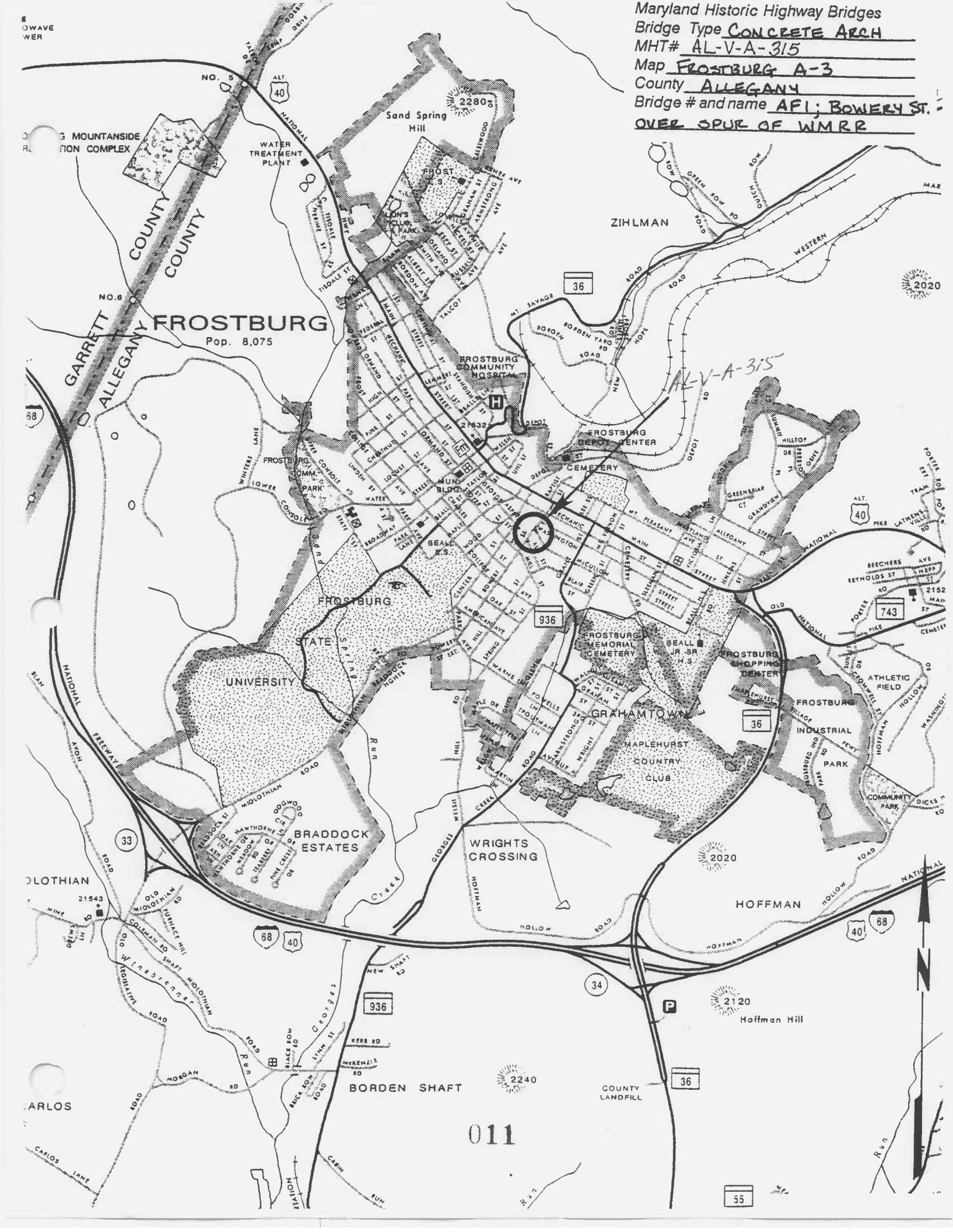
Yes this bridge retains integrity of its character defining elements, including its parapets, wingwalls, abutments, spandrel walls, and barrel..

Should this bridge be given further study before significance analysis is made and why?

No, this bridge should not be given further study.

Bibliography:
City/County inspection/bridge files _____X_____ **SHA inspection/bridge files** _____
Other (list):

Surveyor:
Name: Stacie Y. Webb **Date:** September 1995
Organization: State Highway Admin. **Telephone:** (410) 545-8559
Address: 707 N. Calvert Street, Baltimore, Maryland
Edited by P.A.C. Spero & Company, December 1997


Maryland Historic Highway Bridges
Bridge Type CONCRETE ARCH
MHT# AL-V-A-315
Map FROSTBURG A-3
County ALLEGANY
Bridge # and name AF1; BOWERY ST. OVER SPUR OF WMRR
AL-V-A-315
FROSTBURG
Pop. 8,075
ALLEGANY COUNTY
GARRETT COUNTY
NO. 5
NO. 6
ALT 40
NATIONAL
WATER TREATMENT PLANT
Sand Spring Hill
2280
FROST E.S.
LION'S CLUB PARK
ZIHLMAN
36
2020
FROSTBURG COMMUNITY HOSPITAL
21532
FROSTBURG DEPOT CENTER
CEMETERY
FROSTBURG TOWN PARK
BEALL E.S.
FROSTBURG STATE UNIVERSITY
936
FROSTBURG MEMORIAL CEMETERY
BEALL JR.-SR. H.S.
FROSTBURG SHOPPING CENTER
ATHLETIC FIELD
FROSTBURG VILLAGE INDUSTRIAL PARK
COMMUNITY PARK
GRAHAMTOWN
MAPLEHURST COUNTRY CLUB
BRADDOCK ESTATES
WRIGHTS CROSSING
HOFFMAN
743
2152
2120
Hoffman Hill
BORDEN SHAFT
2240
COUNTY LANDFILL
MOLOTHIAN
21543
CARLOS
33
34
55
68
P
011
N

AL-V-A-315

BR # 20AF011O

BOWERY ST. BRIDGE

ALLEGANY CO., MD.

CHARLES ZIEGLER

2/2/95

S.H.A

SOUTHWEST APPROACH

1 OF 6

A-V-A-315

BR#20AF0110

BOWERY ST. BRIDGE

ALLEGANY CO., MD.

CHARLES ZIEGLER

2/2/95

S. H. A.

NORTHEAST APPROACH

2 OF 6

AL-V-A-35

BR# 20A0110
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ALLEGANY CO., MD
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S. H. A

NORTHWEST ELEVATION

3 OF 6

AL-V-A-315

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S.H.A

SOUTHEAST ELEVATION

4 OF 6


1915.
BRIDGE CO.

ALV-A-315

BR# 20AF0110
BOWERY ST. BRIDGE
ALLEGANY CO., MD
CHARLES ZIEGLER
2/2/95
S. H. A.

PLAQUE ON SOUTHEAST PARAPET

5 OF 6


SAMUEL R. TIDDY, MAYOR.
COUNCILMEN.
JOSHUA DAVIS. GRIFFITH HUGHES.
JOSIAH FORD. WILLIAM P. SULLIVAN.
WILLIAM H. COOK. OLIN R. LAYMAN.
J. S. METZGER, CITY CLERK.
WILLIAM HARVEY, CITY ENGINEER.

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ALLEGANY CO., MD
CHARLES ZIEGLER
2/2/95
S.H.A.

PLAQUE ON NORTHWEST PARAPET

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